

Nos. 14-1401, -1402

**United States Court of Appeals
for the Federal Circuit**

SAMSUNG ELECTRONICS CORPORATION, LTD.,

Appellant,

v.

CCP SYSTEMS AG,

Cross-Appellant.

**Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board,
Reexamination Control No. 95/001,398.**

REPLY BRIEF FOR CROSS-APPELLANT CCP SYSTEMS AG

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December 12, 2014

CERTIFICATE OF INTEREST

Counsel for the Cross-Appellant CCP Systems AG certifies the following:

1. The full name of every party or amicus represented by me is:

CCP Systems AG

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

N/A

3. All parent corporations and any publicly held companies that own 10% or more of the stock of the party or amicus curiae represented by me are:

Greenwich Beteiligungen AG

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or are expected to appear in this court are:

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Dated: December 12, 2014

/s/ Mehran Arjomand

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INTRODUCTION

The '789 patent relates to improving printing systems by transforming “print data streams.” By construing the term “print data stream” to mean *any* data stream, the Board gave no meaning to the word “print.” That was legal error. Not only does the Board’s construction ignore the plain language of the claims, it also deprives the invention of its context and purpose. Samsung hardly addresses the omission of “print” from the claim term, and does not explain what the word “print” means under the Board’s unreasonably broad construction. The Board’s construction should be reversed.

Once the Board’s erroneous construction is set aside, there is no basis to reject the claims. Based on its erroneous construction, the Board misunderstood the relationship between the invention and the prior art. Because the Board construed a print data stream to mean *any* data stream, the Board ignored the distinction between *printing* systems (to which the '789 patent is directed) and other systems (such as the Interleaf *document editing* system). Under the correct construction, there would have been no basis to conclude that the Interleaf document editing system anticipates. Nor would it have been obvious to combine Interleaf with a user manual for printing documents on the IBM AS/400 computer, as Samsung contends.

Samsung argues that even if this Court reverses the claim construction, it should affirm on obviousness. Not so. The claims all require a specific type of “parser.” Samsung does not dispute that a prior art parser must be able to perform the same function required by the claims to be germane to obviousness or anticipation. Yet a parser performing the claimed function is not found in Interleaf or IBM. Samsung, like the Board, ignores that neither Interleaf’s Lisp interpreter nor IBM’s “parsing” of unformatted data does what the ’789 patent’s parser does.

Finally, the Board was wrong that claim 20’s “printer” includes a general purpose computer attached to a printer. Samsung abandons the Board’s reasoning. Instead, Samsung proposes an entirely new construction of claim 20. But that newly minted construction finds no support in the patent and cannot save the Board’s decision.

ARGUMENT

I. THE BOARD SHOULD BE REVERSED BECAUSE IT INCORRECTLY CONSTRUED “PRINT DATA STREAM”

The Board’s construction of “print data stream” deprives the invention of its stated purpose: to facilitate the transformation of data that previously has been output by a computer in a format for controlling a printer. The claims are expressly directed to the transformation of a “*print* data stream.” Yet the Board (and Samsung) construed “print data stream” to read on virtually *any* data stream. That cannot be reasonable. It gives no meaning to the word “print.” And nothing

in the patent suggests that a “print data stream” includes data in formats that cannot be used for printing. Because the Board’s rejections were based on its erroneous construction of “print data stream,” the rejections should be reversed.

A. The Board’s Construction Of “Print Data Stream” Is Unreasonable

1. Samsung and the Board give no meaning to the word “print” in “print data stream”

Samsung barely defends the Board’s omission of the word “print” from the construction of “print data stream.” Nor can it. This Court has reversed constructions that similarly fail to give any meaning to the language in the claims. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010) (reversing Board for reading “finishing” out of claim term “material for finishing the top surface of the floor”); *Apple Computer, Inc. v. Articulate Sys., Inc.* 234 F.3d 14, 24 (Fed. Cir. 2000) (reversing construction where “help” was read out of “help access window”); *see* CCP Br. 30-32. The broadest reasonable construction is not a vehicle to “give the PTO an unfettered license to interpret claims to embrace anything remotely related to the claimed invention.” *Suitco*, 603 F.3d at 1260. Samsung fails to confront these decisions and, at most, simply cites them for boilerplate standard-of-review principles.

Samsung never explains how the Board’s construction gives the word “print” any meaning. At most, Samsung argues that data streams not formatted for

printing are “print” data streams because at some point in the future, they *might* be “further process[ed]” into a printable format. Samsung Resp. 20, 36, 38. But the same is true of *any* data stream. Samsung also is wrong that “*print* data streams” are those data streams “capable of being received and transformed by the claimed method.” *Contra* Samsung Resp. 36 (emphasis in original). That circular definition of “print data stream” does not give “print” meaning either.

Nor is Samsung correct that this Court “routinely rejects” arguments like CCP’s. *Contra* Samsung Resp. 37-38. Far from being “routine[],” Samsung cites only one case in support of its argument, and that case—*In re American Academy of Science Tech Center*, 367 F.3d 1359 (Fed. Cir. 2004)—does not justify the Board’s construction. In *American Academy of Science*, the Board’s construction gave the word “user” in “user computer” a functional meaning—not *no* meaning at all. *Id.* at 1366-67. The patentee argued that “user computer” could only mean a personal computer with a single user (as opposed to a multi-user mainframe computer). *Id.* at 1366. Agreeing with the Board, this Court held that “user computer” included mainframe computers, because the word “user” meant the computer ran “user applications.” *Id.* at 1367. This functional meaning of “user” was more consistent with the specification, which “distinguish[ed] a user computer from a data center computer in terms of function.” *Id.* Thus, *American Academy of Science* underscores CCP’s point that the Board must give each word in the

claim a meaning consistent with the specification. *Id.* That is entirely unlike the situation here, where the Board’s construction of “print data stream” gave the word “print” no meaning whatsoever.

Equally misplaced is Samsung’s argument that for “print” in “print data stream” to have meaning, there must have been an explicit definition or disclaimer in the specification. Samsung Resp. 27 (citing A12). The only support Samsung cites for this proposition—that “recourse to the specification is limited” to whether the dictionary definition is wrong—is the Court’s en banc decision in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Samsung Resp. 27 (quoting *Phillips*, 415 F.3d at 1320). But that is not *Phillips*’s holding. The portion of *Phillips* upon which Samsung relies (and quotes) was an explanation of the claim construction methodology the en banc Court was *rejecting*: it “limits the role of the specification in claim construction to serving as a check on the dictionary meaning of a claim term . . . or if the specification contains a sufficiently specific alternative definition or disavowal. . . . That approach, in our view, improperly restricts the role of the specification in claim construction.” *Phillips*, 415 F.3d at 1320. Other precedents are in accord. *See, e.g., In re Abbott Diabetes Care Inc.*, 696 F.3d 1142, 1149-50 (Fed. Cir. 2012) (holding that resort to the specification is not limited to identifying an express definition or disclaimer).

Finally, Samsung contends that “portions of the specification” use “print data stream” inconsistently with CCP’s construction. Samsung Resp. 28. But Samsung cites nothing in the specification to support that contention. Instead, Samsung cites the Examiner’s reference to a description of JavaScript, a script language, in the specification. *Id.* at 28; A2312. But this description of JavaScript does not mention “print data streams.” A68(col.6:52-65). Similarly, Samsung asserts that “[a]ccording to the specification, input print data streams can broadly comprise ‘a document and its components’ and can be received in many different formats, including formats not traditionally used for printing.” Samsung Resp. 5 (quoting A69(col.8:57-60)). Not so: the specification actually says that PDLs are used to “describe[]” “a document and its components” in a format that can be “‘understood’ by the printing system.” A66(col.2:52-61). In other words, the “print data stream” is a *description* of the original “document and its components,” in a PDL format for controlling a printer. A66(col.2:52-61).

2. *Claim differentiation is not implicated because “print data stream” is not limited to PDLs*

Samsung argues that CCP improperly limits “print data stream” to just one class of print data stream—PDLs—and that CCP’s construction thus violates claim differentiation principles because claim 76 expressly limits the input print data stream to a PDL format. Samsung Resp. 33-34; A2507. The Board did not rely on claim differentiation in its construction. In any event, Samsung’s argument both

misstates CCP's construction and is defeated by its own concession that SCS is a non-PDL print data stream covered by the claims.

Claim differentiation does not apply because CCP does not limit print data streams to PDLs. As used in the '789 patent, a "print data stream" includes *all* data streams output in formats for controlling a printer, not just PDLs. *Contra* Samsung Resp. 34. To be sure, the specification emphasizes PDLs. *See, e.g.*, A66(col.2:52-65). That is because the specification observes that PDLs are used to control "[v]irtually all the output devices which are common nowadays." A66(col.1:9-16) (emphasis added). But "virtually all" is not "all." The specification expressly recognizes that non-PDL formats—i.e., simpler prior art formats—were also used for controlling printers. A66(col.1:55-col.2:13). One example is SCS (discussed in IBM). In fact, Samsung concedes that "SCS is a 'print data stream' under CCP's construction because it is formatted for control of a printer." Samsung Resp. 46. Thus, CCP's construction of "print data stream" is not limited to PDLs, and the principle of claim differentiation has no application here.

3. *XML and HTML are not "preferred embodiments" of the "print data stream"*

Departing again from the Board's reasoning, Samsung contends for the first time that XML and HTML are "input print data streams," and that CCP's construction "excludes [those] preferred embodiments" because XML and HTML

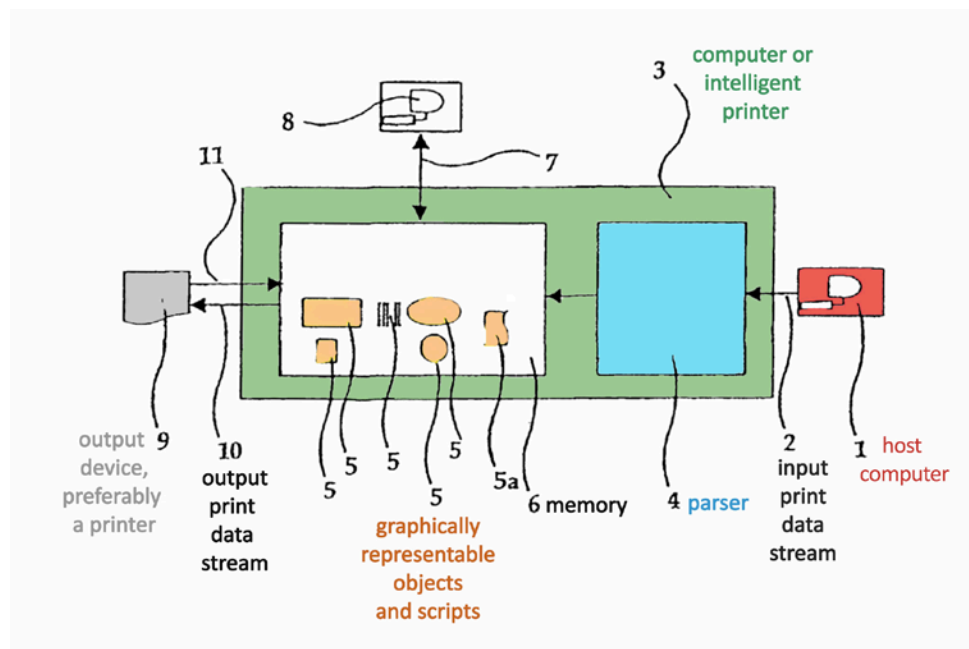
are not formats for controlling a printer. Samsung Resp. 28-30. But this Court should reject Samsung's effort to rewrite the '789 patent. Nowhere does the specification suggest XML and HTML are print data streams at all, much less preferred embodiments of the input print data stream.

As Samsung acknowledges, XML and HTML are formats "used for displaying information such as web pages, not printing." Samsung Resp. 5. Samsung argues that the specification calls HTML and XML "input formats." A66(col.2:14-16). That is correct: HTML and XML are formats, and some programs use them as inputs. But they are not described as "input *print data streams*," because they are not used for controlling a printer. Instead, these formats are discussed in connection with the invention's scripts. In the claimed method, scripts, which are commands or instructions written in computer code, are attached to objects that have been parsed from the input print data stream. These scripts perform various tasks, such as updating information before a document is printed, or retrieving sales data from the Internet and adding the data to a graph. CCP Br. 10-11.

Data from XML documents and web pages are examples of information the scripts can retrieve. A68(col.5:11-18, col.5:21-25, col.6:38-46). Thus, claim 8 requires a "script (5a) which automatically sends data" from various sources, including "image data, text data or data from web pages from the Internet, data

from XML documents or else e-mails.” A70(col.10:13-19). Claims 5, 26, 29, 42, and 45 include similar limitations. A70(col.9:65-col.10:4), A71(col.11:62-col.12:2, col.12:13-20), A72(col.13:40-47, col.14:3-10).

As illustrated by Figure 1 in the '789 patent, the information used by the scripts is distinct from the “input print data stream.” The “input print data stream” 2 is sent by host computer 1 and received by parser 4:



A65 (color and annotations added), A69-A70(col.8:49-col.9:23). In contrast, XML or HTML formatted information comes from the Internet and other sources, and is used by scripts 5a in memory 6. A70(col.10:14-19). No “print data stream” is input to the scripts 5a. Rather, the input print data stream is split up into objects 5 by the parser, the scripts are assigned to the objects, and only then might the scripts obtain and use XML or HTML formatted information.

Nor does the background passage of the specification upon which Samsung relies define HTML and XML as input print data stream formats. *Contra* Samsung Resp. 29. That passage only references HTML and XML as examples of complex data formats. While discussing *parsing*, the specification explains that prior art methods (“status machine[s]”) could not recognize and parse more complex data formats (exemplified by PDLs, XML, and HTML). A66(col.1:55-col.2:16). The language Samsung cites explains that parsing complex PDLs requires a more powerful parser. A66(col.2:14-41, col.2:62-65), A67(col.3:21-30). But just because the claimed parser can analyze many complex formats (including HTML and XML) does not mean that all such formats are print data streams. To the contrary, by recognizing that XML and HTML are complex formats, but deliberately omitting them when discussing the complex “print data streams” transformed by the claimed method, the patent confirms that “print data stream” does not include data streams in XML and HTML formats. A66(col.2:62-65), A67(col.3:21-26). Thus, Samsung’s newfound HTML and XML argument cannot save the Board’s construction.

4. *An “input print data stream” and an “output print data stream” are both formatted for controlling a printer*

Finally, Samsung maintains that the “input *print* data stream” includes any data stream, even though it concedes that the “output *print* data stream” is formatted for controlling a printer. Samsung Resp. 30-32, 36; A70(col.9:27,

col.9:39). This argument ignores the bedrock principle that a term is presumed to have the same meaning throughout the claims. *Digital-Vending Servs. Int'l, LLC v. University of Phoenix, Inc.*, 672 F.3d 1270, 1275 (Fed. Cir. 2012). There is no valid reason here to give the two instances of “print data stream” at the beginning and end of claim 1 such different scopes.

In an attempt to evade this Court’s law, Samsung argues that claim 1 requires the input and output “print data streams” to have different meanings. According to Samsung, the “input print data stream” becomes a data stream capable of controlling a printer by undergoing a “transformation” into an “output print data stream.” Samsung Resp. 30-32. Samsung contends that if both “print data streams” were formatted for controlling a printer, there would be no “transformation” in claim 1. *Id.* at 32. Thus, Samsung argues the “key distinction” between “input” and “output” print data streams is that the “output” print data stream is in “a format for the control of an output device” but the “input” print data stream is not. *Id.*; A70(col.9:25-39).¹

¹ As Samsung notes, “output device” includes printers, copiers, all-in-ones, and other devices for outputting printed documents, “[v]irtually all” of which are controlled by PDLs. CCP Br. 38-39; A66(col.1:9-11). Samsung agrees that the “output print data stream” sent to the “output device” is formatted for the control of a printer, and does not defend the Examiner’s mistaken conclusion otherwise. Samsung Resp. 31-32.

But claim 1 does not support Samsung's newly minted argument. The distinction between the "input print data stream" and the "output print data stream" is that a "print data stream" is "input" to, and then "output" from, the claimed transformation method. A70(col.9:25-43).

Nor does rejecting Samsung's argument deprive "transformation" of its meaning, because the claimed method is not for turning an unprintable data stream into one that can control a printer. The claimed method is for transforming the contents of an existing print data stream *after* it has already been output in a printable format. CCP Br. 9-11. In other words, the claimed method transforms the "print data stream" by parsing and splitting it into objects, storing those objects in memory, assigning scripts to them, and executing those scripts (which may introduce data from other sources, like "data from XML documents"). A68(col.5:3-18), A70(col.9:2-43). Then, in steps (iv) and (v), the claimed method formats the objects, combines them, and outputs a transformed output print data stream. A70(col.9:34-39).

Samsung's narrower reading of the inventive "transformation" ignores most of claim 1, including the preamble, which indicates that the claimed "transformation of digital print data streams" includes all of claim 1. A70(col.9:24-26). Instead, Samsung erroneously reduces the claimed "transformation" to just step (iv), in which the objects are "transformed into a

format for the control of an output device (9).” A70(col.9:34-37). Based solely on step (iv), Samsung contends that only the output print data stream is formatted for controlling a printer. Samsung Resp. 32 (“CCP . . . renders superfluous the extra limitation on an output stream that it must be in ‘a format for the control of an output device.’”). But step (iv) is only one step; it does not define the entire “transformation” as reflected by the preamble. Furthermore, as the quoted language only describes the *objects* in step (iv), not the output *print data stream* in step (v), it can neither redefine the “transformation” of a “print data stream,” nor justify giving “print data stream” two different scopes in steps (i) and (v).²

Samsung further argues that the host computer would do less work, and the invention would be improved, if the “input print data stream” were unformatted. But this argument fails because it is directed to a hypothetical invention. The *claimed* invention is meant to shift memory- and processor-intensive tasks away from the host computer—and it does. CCP Br. 7, 11-12, 33-34. The patent never purports to shift *all* print-related tasks from the host computer. For good reason: it was an advantage that the claimed method accepted the formats prior art computers already output to printers. Samsung’s hypothetical invention might well have been

² The output print data stream *is* formatted for controlling a printer, but that information is conveyed by “print data stream,” not “a format for the control of an output device.”

more burdensome, as it would have required existing computers to change outputs depending on the printer.

B. Under The Correct Construction Of “Print Data Stream,” The Claims Are Not Anticipated Or Obvious

When “print data stream” is construed correctly, the claims are not anticipated. The Interleaf references cannot anticipate because they do not disclose a “print data stream.” CCP Br. 40-43.³ No other reference anticipates either: Samsung does not (and cannot) challenge the Board’s conclusion that IBM does not anticipate. A11-A12.

Instead, Samsung falls back on obviousness, urging this Court to affirm the obviousness rejections over IBM combined with Interleaf’s scripts, because IBM has a “print data stream.” Samsung Resp. 38-39, 43-45.⁴ But simply discussing a print data stream is not enough for obviousness. To be obvious, there must have been a reason to transform print data streams using the claimed combination of elements. Once the Board’s construction is set aside, no reason to combine IBM with Interleaf for that purpose could have existed. After all, Interleaf is not

³ As discussed below, the Interleaf references also do not anticipate for another, independent reason: they do not teach the claimed “parser.” *See infra* Part II.A.

⁴ Samsung does not defend the obviousness rejections based on other combinations (Interleaf with the Interleaf patent, Interleaf in view of IBM, etc.).

directed to printing, does not disclose a “print data stream,” and would not have been “predictable” to combine with IBM’s printing systems. CCP Br. 40-42, 45-46; *see* A18.

Nor does the Examiner’s finding that the Interleaf Patent disclosed “print-scripting” support the Board’s conclusion. A18. The Interleaf references nowhere disclose “print-scripting.” A18; CCP Br. 46-47. Samsung concedes this point by failing to respond in its brief. While continuing to argue more generally that “Interleaf teaches scripts . . . in relation to *printing*,” Samsung Resp. 48-50 (emphasis in original), Samsung ignores that the Board expressly relied on the erroneous “print-scripting” finding for that very point, A18; A2196-A2197 (ACP 33-34), A2232-A2233 (ACP 69-70).

Finally, Samsung argues that IBM and Interleaf are “combinable” even under CCP’s construction, because Interleaf can “take advantage of” external printing facilities (such as functions built into a computer’s operating system). Samsung Resp. 49-51 (quoting A650); A2197 (ACP 34) (Interleaf “leverage[s] outside printing and publishing functionality” and “IBM provides external printing and publishing functionality”). But just because you can print an Interleaf document using “[e]xternal publishing functionality,” A650, does not make Interleaf’s document editing system relate to the field of printing. Nor is Interleaf’s observation that one can “take advantage of” or “make[] use” of

external printing facilities, A650, a reason to *modify* those facilities. (To the contrary—it suggests the existing facilities are fine.) At most, there might be a reason to use a computer to *create* a “print data stream” out of Interleaf data and print a document in the conventional way. A1480-A1481, A1484-A1485 (Birnbaum) (explaining that Interleaf data would need to be formatted as a print data stream by the computer’s printer driver); CCP Br. 41-42, 49. That combination is irrelevant to obviousness, however, because it yields nothing resembling the claimed *transformation* of a “print data stream.”

In sum, the Board’s determination that it would be obvious to improve IBM with Interleaf’s scripts was infected by its overbroad construction, and therefore should be reversed.

II. THE CLAIMS ALSO ARE NOT ANTICIPATED OR OBVIOUS BECAUSE NEITHER INTERLEAF NOR IBM DISCLOSES PARSING A PRINT DATA STREAM FOR OBJECTS

The Board also should be reversed for an independent reason: neither IBM nor Interleaf has the parser required by the claims.

This Court has held that for a claim to be invalid as obvious, the prior art must disclose the required elements. Where the claim requires an element that can perform a specific function—here, a parser that splits print data streams into objects—obviousness requires a prior art element that can perform the same function. CCP Br. 56-57. A generic disclosure that is “insufficient to permit the

conclusion that it refers to the same *type* of [function] at issue in the [patent]” is not enough; the disclosure must teach the “same type” of function “at issue in the [claims].” *InTouch Techs., Inc. v. VGo Commc’ns, Inc.*, 751 F.3d 1327, 1350-51 (Fed. Cir. 2014) (emphasis in original). Although CCP cited this precedent, CCP Br. 56-57, Samsung ignored it.

Here, the cited prior art disclosures at most teach a generic analyzer, not the parser required by the claims. A “parser” is a “syntax analyzer” that analyzes data streams. A67(col.3:23).⁵ The parser required by the claims must analyze an input print data stream, identify graphically representable objects in that print data stream, and isolate the objects so scripts can be assigned. CCP Br. 10, 53-54; A69-A70(col.8:61-col.9:4). Because neither the Interleaf references nor IBM discloses a parser as stated in the claims, these references do not disclose all claim elements individually, much less “individually and together.” *Contra* Samsung Resp. 5; *see id.* at 2, 7. Therefore, the Board’s obviousness and anticipation rejections cannot be sustained.

A. The Interleaf References Do Not Disclose The Claimed Parser

The required “parser” is not found in Interleaf under any construction of “print data stream.” Samsung argues that this Court should defer to the Board’s

⁵ Samsung is therefore wrong that the specification does not define a “parser.” *Contra* Samsung Resp. 6.

findings that the Lisp interpreter performs the required parsing function. Samsung Resp. 40-42. But the Board made no such findings. All the Board and Examiner concluded was that Interleaf's Lisp interpreter was a "parser" because it "operates on the Interleaf document file stream." A14. That is not enough. The Lisp interpreter is not used to analyze and split up *any* data stream—"print" or otherwise—into *any* objects. CCP Br. 54-55; A1485 (Birnbaum). Nor could it be used that way: the Lisp interpreter can only read scripts for identifying commands—not objects.

In the absence of a finding from the Board upon which it can rely, Samsung tries to make Interleaf sound generally similar to the '789 patent's transformation method. According to Samsung, "Interleaf processes a data stream for a document by parsing it to identify and isolate the objects therein [A] central purpose of the Interleaf system is to isolate and identify objects in a data stream and attach scripts." Samsung Resp. 42 (citing A645). Nothing in the record supports this attorney argument. *Contra* Samsung Resp. 41-42.⁶

⁶ Dr. Jacobs never testified that "Interleaf's document data stream . . . is split into objects" by parsing. *Contra* Samsung Resp. 8. He only testified that both the '789 patent and Interleaf disclose computer programs with scripts and "refer to performing various operations on the transformed data stream." A2056. Moreover, this vague testimony does not rest on the '789 patent's claims or a description of the claimed method, but only a passage explaining how to install software for performing the method. A2056 (citing A69(col.8:40-48)).

Interleaf is a document editing system (not a printing system) with an interactive “computer workstation programmed to allow a user to create and edit” active documents. A663(col.1:15-26); A657 (Fig.2, showing the “user interface”). The system’s user writes scripts and assigns them to objects via the user interface. CCP Br. 15-16; A664(col.4:54-67) (explaining how a user would “build a memorandum document”). Thus, Samsung is wrong that Interleaf “converts” static documents to active documents by *automatically* isolating objects and assigning scripts. *Contra* Samsung Resp. 8-9. The interactive Interleaf system is unlike the claimed method, which parses a print data stream into objects and assigns scripts *independent* of the host computer and its user.

Moreover, the Lisp interpreter is not used to “generate” the active document’s objects or scripts. *Contra* Samsung Br. 14. Had the Board made such a finding (and it did not), that finding would be unsupported by substantial evidence. Interleaf teaches that the user generates objects and assigns scripts using Interleaf’s Document Processing System (“DPS”), which is distinct from the Lisp interpreter. *See* A657 (Fig.2, depicting the DPS (28) and the Lisp interpreter (70)), A665(col.5:42-67) (describing the creation of a new script, or “method”). The Lisp interpreter merely finds and reads scripts previously assigned to objects. As the Interleaf patent explains, the scripts are stored in a file, A664(col.3:56-67), and

the Lisp interpreter uses a “method table” to locate the script to be read and executed, A665(col.5:1-9, 22-35).⁷

In short, Samsung is wrong: the claims are not invalid over Interleaf’s Lisp interpreter, because it does not perform the required parsing function. Thus, Interleaf cannot anticipate under any construction of “print data stream.”

B. Samsung Identifies Nothing In IBM That Discloses A Parser That Performs The Required Function

Alternatively, Samsung argues that IBM discloses the required parsing function. Samsung Resp. 45-47. The Board did not make that finding. To the contrary, the Board generally rejected Samsung’s reading of IBM when reversing the anticipation rejections. A10-A11 (discussing IBM, A417-A418, and Samsung’s “annotated Fig. 116”). As the Board made no finding that IBM discloses the claimed parsing function, affirmance based on IBM’s parsing is unwarranted. CCP Br. 56-58.

⁷ Interleaf’s “binding” does not support Samsung either. “Binding” merely means the active document references the Lisp script by name, so it can be easily located in the appropriate method file. A645 (explaining that “[r]un-time binding is required for easy delivery” of documents). The Examiner’s analysis is confusing: Interleaf does not discuss “parsing” at all, or suggest “parsing” is related to “binding.” A2215 (citing A645, A653). Samsung also confuses the Lisp interpreter with the benefits of the Lisp scripting language and the tasks scripts written in that language can perform. Samsung Resp. 14, 40-42; A653. The “Lisp program” cited by the Examiner is a Lisp script; its function is irrelevant to whether the Lisp interpreter “parses.” *Contra* Samsung Resp. 14 (citing A2196); A647.

Samsung argues that IBM teaches “print data streams” even under CCP’s construction. But that makes no difference: Samsung identifies nothing in IBM that *parses* a print data stream. *Contra* Samsung Br. 11-12, 45-46. Relying on IBM’s Figure 116 and the accompanying text, which explains that formatting lines of data may involve something called “optional parsing,” Samsung argues that IBM discloses parsing an SCS print data stream. Samsung Resp. 45-46; A417-A418. That is not correct: IBM applies the “optional parsing” to “unformatted” data, A418, not to a print data stream. Merely calling a dissimilar function “parsing,” as IBM does, is not enough.

IBM’s Figure 116 depicts two alternatives. CCP Br. 17-18, 50-51, 57. An application can either produce “application formatted” data (the top pathway) or “unformatted” data (the bottom pathway):

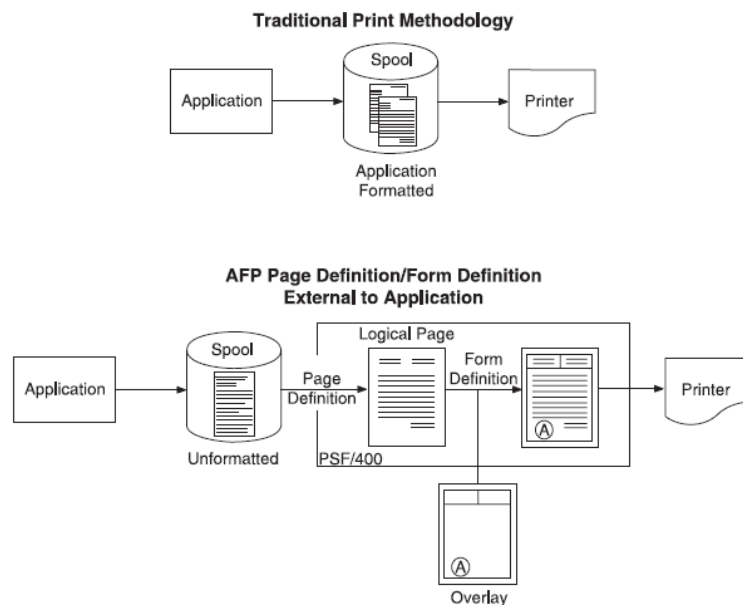
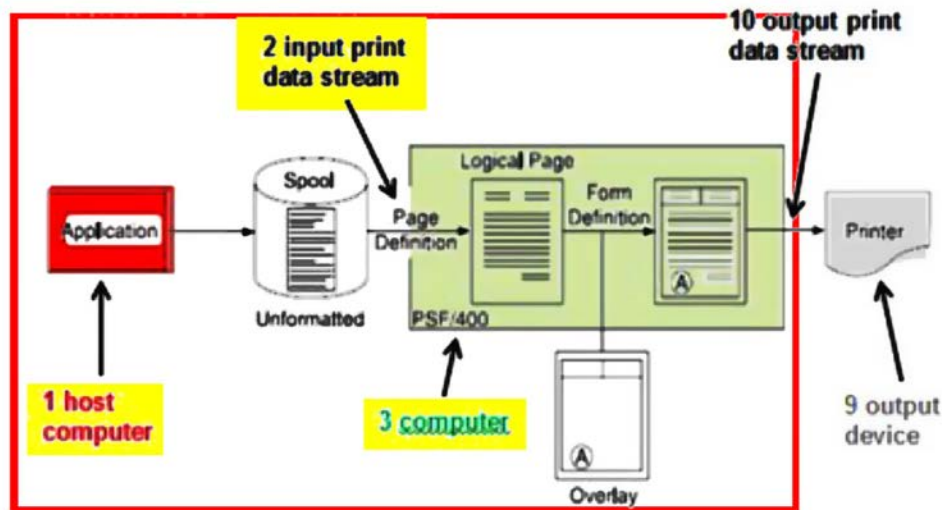


Figure 116. Traditional Printing Compared to Printing with Page Definitions and Form Definitions

A418 (original IBM Figure 116); *see* A235; A261. The simple SCS print data stream is the “application formatted” data depicted in the upper pathway. A418. The page and form definitions, and the “optional parsing” on which Samsung relies, apply to the “unformatted” print data in the bottom pathway. A418.

Thus, Samsung’s modifications to its partial reproduction of Figure 116 are wrong:



Samsung Resp. 11 (yellow highlighting and red rectangle added by CCP). The IBM reference is just a manual for an actual device—the AS/400 computer. Samsung’s modified figure depicts events occurring *within* IBM’s AS/400 computer (represented by the large red rectangle). Thus, contrary to Samsung’s annotation, the “[a]pplication” cannot be a separate “host computer”; it is an “application” program running on the AS/400 computer (again, the red rectangle). Nor is the Print Services Facility for AS/400 (“PSF/400”) a separate “computer.”

The PSF/400 is an AS/400 “feature” used to format data for printing. A250, A418; CCP Br. 57 n.10.

Samsung’s “input print data stream” annotation is also wrong, because there is only one “print data stream” in the bottom pathway. That pathway depicts the creation of a print data stream from “unformatted” application data, not the transformation of an input print data stream. The unformatted data is placed on pages using “page” and “form definitions” before it is sent to the printer. *See* CCP Br. 17-18, 50, 57.

Samsung attempts to evade this problem by saying that the bottom pathway of Figure 116 depicts an unformatted SCS print data stream. Samsung Resp. 46. But there is no such thing as an unformatted SCS print data stream. IBM states that SCS is a “relatively simple” format—not that it is “unformatted” data. A238-A239. As Samsung concedes: “IBM leaves no doubt that *SCS is a format* that can be ‘used to control’ a printer.” Samsung Resp. 46 (emphasis added). IBM does not support Samsung because the original annotations in Figure 116 say the formatting process applies to “unformatted” data, not a print data stream. A417-A418.⁸

⁸ As the ’789 patent’s specification explains, prior art analyzers for simple data stream formats cannot analyze complex formats, like PDLs. *See supra* p. 10.

Samsung's argument that IBM's "parsing" is applied to a *Postscript* print data stream is unsupported. *Contra* Samsung Resp. 46-47. Figure 116 does not show a Postscript print data stream, nor does the accompanying text suggest a Postscript print data stream is optionally parsed. A417-A418. Samsung cites another page of IBM entirely unrelated to Figure 116, A240, but that page does not disclose "parsing" a Postscript print data stream either. It only mentions that Postscript can be "converted" to a different format; it does not say the conversion involves "parsing," much less parsing a print data stream for objects to which scripts can be assigned. A240.⁹

The Board did not find that IBM's "parsing" was equivalent to the claimed parsing, and could not have made that finding on this record. The rejections thus cannot be upheld based on IBM's parser.¹⁰

⁹ Samsung's expert Dr. Jacobs only testified that IBM discloses parsing "one or more" data streams—not parsing Postscript. A2052. And as he never compared the claims to IBM, his observation that IBM mentions something called parsing cannot support obviousness. A2052.

¹⁰ Samsung's objection that CCP "argues the prior art references individually" misses the point. Samsung Resp. 47. IBM's disclosure of "parsing" "unformatted" data can only support obviousness if it corresponds to the type of parsing required by the claims. It does not.

III. BECAUSE THERE IS NO MOTIVATION, THE OBVIOUSNESS REJECTIONS ARE BASED ON IMPERMISSIBLE HINDSIGHT

Samsung argues that even under CCP's construction of "print data stream," the obviousness rejections should be affirmed. But affirmance should not be possible because the Board never articulated the reasoning essential to reach a conclusion of obviousness. Instead, the Board relied on impermissible hindsight. CCP Br. 25, 47-51.

As Samsung acknowledges, most inventions are combinations of previously known elements. Samsung Resp. 47. Inventive combinations which may seem obvious in hindsight, "with the invention fully diagrammed and aided" by the patent, "may have been a breakthrough of substantial dimension when first unveiled." *InTouch*, 751 F.3d at 1347-48 (internal quotation marks omitted). Thus, the Board must identify a "reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (reversing the Board's conclusion of obviousness); CCP Br. 44-45. The Board must provide "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); CCP Br. 44-51. "To facilitate review, this analysis should be made explicit." *KSR*, 550 U.S. at 418.

The Board did not articulate the reasoning required by law. It simply stated, without further explanation, that the claims are the “predictable results” of combining Interleaf’s scripts with IBM. A18. It failed to identify any reason *why* a skilled artisan would have taken the IBM manual for the AS/400 computer and modified one of its many printing processes, none of which match the claimed method, by adding Interleaf’s scripts. Nor did it articulate *how* that combination could result in transforming a print data stream after it was output in a format for controlling a printer—something the cited portions of Interleaf and IBM do not teach. A18. “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements.” *Kahn*, 441 F.3d at 988. Because the Board “fell into the hindsight trap,” the obviousness rejections should be reversed. *Kotzab*, 217 F.3d at 1371.

Thus, the Board’s bare assertion that the references are “combinable,” and the results “predictable,” is not sufficient for obviousness. The only “predictable” combination of IBM and Interleaf—printing Interleaf documents using the IBM AS/400 computer—would not result in anything resembling the claims. A1480-A1481 (Birnbaum); *see supra* Part I.B. Samsung treats IBM and the Interleaf references as if they were catalogs of interchangeable parts for application to any print data stream, anywhere in any printing system. But IBM is a manual for *users* of a particular computer system—the AS/400—not a textbook for skilled artisans.

IBM only teaches how to *use* the AS/400's printing facilities. IBM does not teach how to modify or recombine its components. And neither the Board nor Samsung provides any reasoning to explain how the Interleaf references could supply that motivation, given that they are not directed to printing. At most, the Interleaf references suggest *using* (not modifying) existing "external" printing facilities.

Samsung fails to respond to this point in its brief. Instead of addressing the Board's hindsight problem, Samsung asks this Court to defer to the Board's conclusion. However, "[e]ven when obviousness is based on a *single* prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference." *Kotzab*, 217 F.3d at 1370 (emphasis added). The Board's failure to identify any such motivation is fatal to its conclusion.¹¹

IV. CLAIM 20 IS NOT OBVIOUS BECAUSE "PRINTER" DOES NOT INCLUDE A COMPUTER ATTACHED TO A PRINTER, AND SAMSUNG'S NEW CONSTRUCTION IS MERITLESS

The Board misconstrued claim 20, which requires "[a] printer, characterized in that it has a system for the transformation of digital print data streams." A71(col.11:13-15). The Board concluded that claim 20's "printer" included IBM's

¹¹ Samsung's reliance on claim 76 is misplaced. Samsung Resp. 43-44. The Board merely concluded that IBM discloses Postscript. A14-A15. CCP agrees that IBM discloses print data streams including Postscript. But it is not a print data stream that is inventive, it is the claimed transformation method, which IBM does not teach.

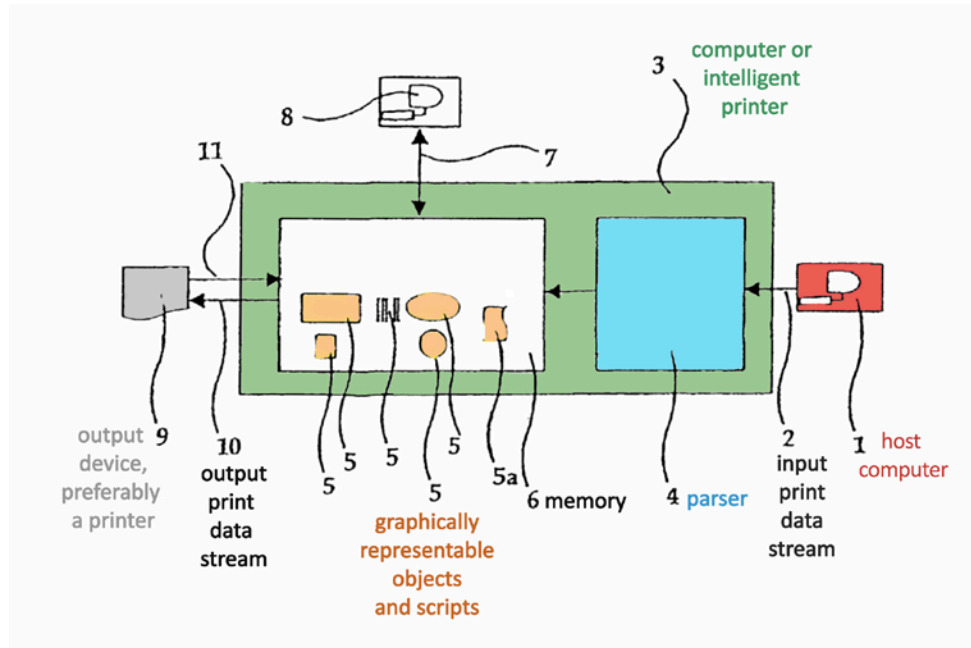
AS/400 computer, because it was attached to a printer. A16-A17. But no reasonable construction of “printer” can include IBM’s AS/400 computer. The plain meaning of “printer” does not include a general purpose “computer,” even one attached to a printer. CCP Br. 64-69. The Board’s construction finds no support in the patent, which consistently distinguishes general purpose “computers” from “printers.” The required printer is not found in IBM because IBM never discloses an intelligent printer able to transform data streams (“print” or otherwise). It only discloses a general-purpose computer that can be connected to one or more printers. And the Board’s reasoning that a “printer” need not have a single chassis does not excuse its flawed construction.

Samsung makes no effort to defend the Board’s reasoning that claim 20’s “printer” is satisfied by IBM’s AS/400 computer. Instead, Samsung advances an entirely new construction of claim 20 that is different from the one it proposed in the reexamination and that the Board adopted.¹² Regardless, Samsung’s construction is wrong.

As illustrated by Figure 1, the invention transforms an input print data stream using the method of claim 1. A65; CCP Br. 9-11. In the exemplary embodiment, device 3, which transforms the print data stream, is a computer or

¹² Samsung argued to the Board that IBM’s AS/400 attached to a printer was a “printer,” because the “printer” need not have one chassis. A16-A17; A2517.

printer. After the print data stream has been transformed, it is output to device **9**, which is preferably a printer.



A65 (color and annotations added).

Samsung seizes on the second printer in this embodiment and argues *that* is claim 20's "printer." Samsung Resp. 53-54 (citing A65). But Samsung's reading does not make sense. The printer in claim 20 is "characterized in that it has a system for the transformation of digital print data streams." A71(col.11:13-15). In other words, the system is a defining characteristic of the "printer." This is logical because claim 20 is based on claim 17, and claim 17 claims the system. Neither the claims' relationship nor their plain language supports Samsung's argument that the "printer" to which claim 20 is directed is a mere appendage to a system found in some other device. Samsung argues that the language "printer, characterized in

that it has” only means “printer[,] *attached to*.” Samsung Resp. 53 (emphasis added). But the plain language of the claim does not support this reading. And the patent never uses the word “attached,” nor equates “has” with “attached to.”¹³

The relationship between claims 17, 20, and 21 confirms that claim 20’s “printer” embodies the system that transforms print data streams. Claim 17 recites a processor-based “system for the transformation of digital print data streams,” which “operates in accordance with” claim 1’s method. A70(col.10:57-62). In other words, the system of claim 17 accepts the input print data stream, transforms it, and outputs it to an output device, which is preferably a printer. A70(col.9:25-39).

As discussed in the specification, claims 20 and 21—requiring a “printer” and a “printer server” respectively—correspond to specific implementations of claim 17’s system. The specification explains that the inventive system can be “integrated into” a “printer” or a “printer server” (a computer). A69(col.8:24-25). The description of Figure 1’s embodiment likewise explains that device **3**, which “which operates in accordance with” the claimed method, may be a computer or an intelligent printer. A65; *compare* A69(col.8:57-61), *with* A70(col.10:57-62) (claim 17, requiring a system that transforms print data streams and “operates in

¹³ To the extent Samsung now argues the system and devices must be *physically* attached, *see* Samsung Resp. 56, that is likewise unsupported.

accordance with” claim 1’s method). Indeed, the patent’s title is “*Method And System For The Transformation Of Digital Print Data Streams And Corresponding Printer And Printer Server.*” A64 (emphases added). Samsung’s construction ignores all of this, divorcing the “printer” and “printer server” from the system to which they correspond.

Samsung’s new construction collapses when applied to claim 21. Claim 21 is nearly identical to claim 20, but claim 21 requires a “printer server” rather than a “printer.” A71(col.11:13-18). A printer server is a computer, not an output device for producing printed documents. *See* A66(col.1:9-11) (describing “output devices” that use PDLs to “produce printed documents”). But under Samsung’s construction, claim 21’s printer server, like claim 20’s printer, is the output device receiving a transformed print data stream. Samsung Resp. 54. Although Samsung’s construction of claim 20 also applies to the identical language in claim 21, Samsung does not even mention claim 21, much less how to reconcile it with Samsung’s newfound construction.

Samsung’s remaining arguments should also be rejected. Samsung argues that as printers developed increased processing capacity, “the line between computers and printers was blurring,” so “printers” and “computers” became interchangeable. Samsung Resp. 54. But there is no support for this. Samsung

only cites the patent, and the patent calls printers with greater processing power “intelligent printer[s]”—not “computers.” A69(col.8:59-60).

Samsung argues that the preferred embodiment teaches a “host computer,” like IBM’s AS/400 computer, that transforms print data streams. Samsung Resp. 55. But Samsung confuses the “host computer” sending the input print data stream with device **3**, which transforms it. Device **3** can be a computer (a printer server) that transforms print data streams, and that configuration is covered by claim 21.

Finally, Samsung argues that claim 20 is obvious under any construction of “printer,” because IBM’s AS/400 computer has subsystems and applications. *Id.* at 52, 55 (citing A491). This is the same misunderstanding of IBM Samsung pressed earlier, and it should be rejected. *See supra* pp. 22-23. Applications and subsystems are not separate computers, any more than a computer is a “printer.”

Samsung advances a new construction of claim 20 only because it cannot rebut CCP’s argument that the Board’s construction of “printer” was contrary to the plain meaning of “printer.” Samsung’s new construction is not a plausible reading of the patent, and this Court should reject it.¹⁴

¹⁴ The Board did not consider or apply Samsung’s new arguments in making its findings on IBM. Thus, if this Court were to adopt Samsung’s construction, remand would be warranted.

CONCLUSION

For the foregoing reasons, the rejections of claims 1-54, 56-62, 68-71, and 76-82 should be reversed.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system on December 12, 2014.

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Dated: December 12, 2014

/s/ Mehran Arjomand

CERTIFICATE OF COMPLIANCE WITH RULE 32(a)

This brief complies with the type-volume limitation of Rule 32(a) of the Federal Rules of Appellate Procedure because it contains 6,993 words.

Dated: December 12, 2014

/s/ Mehran Arjomand